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REMARKS

Claims 1-5 and 8-17 are active in the present application. Claims 1 and 12 have been amended. No new matter has been added by the amendment and the amendment is believed to place the application in condition for allowance. Accordingly, reconsideration and allowance of the application are respectfully requested.

Applicants thank Examiners Mitchell and Graybill for the courtesies extended during the telephone interview conducted on January 9, 2004. In the interview, Applicants discussed Japanese Patent No. 402278845 (Osada), the present invention, and in particular claim 1. Applicants pointed out several differences between the leadframe disclosed by Osada and that of the present invention, while Examiner Mitchell clarified his position on the definition of a "terminal" as a metallic connector or pad that permits electrical interconnection. The parties disagreed as to whether the small, spaced projections 25_1 of Osada are actually terminals for electrical interconnect. Although some suggestions were offered on alternative claim language, no agreement was reached as to any specific language for over coming the reference.

Claims 1-5, 8, 9 and 11-14 have been rejected under 35 U.S.C. §102 as being anticipated by Osada. The Office Action states that the small, spaced projections 25_1 extending from the paddle ring 25 terminate in a first row of terminals and that the leads 28 form a second row of terminals. Applicants respectfully traverse the rejection.

The present invention is directed to a multi-row leadframe. The leadframe includes a first row of terminals that, prior to singulation, are connected to and extend outwardly from a paddle ring. A second row of terminals surrounds the first row of

terminals. The terminals of the second row are connected to a connection bar (prior to singulation). The first row of terminals is also connected to the connection bar at a corner thereof. The paddle ring may include inner and/or outer projections that help mechanically lock the paddle with an encapsulant (see Specification, Para. 29).

FIGS. 2 and 3 show the leadframe with the first row of terminals 32 singulated from the paddle ring 22 and the second row of terminals 34 singulated from the connection bar 78 (FIGS. 9 and 10). FIGS. 9-10 show the leadframe prior to singulation (separation of the first row of terminals from the paddle ring and separation of the second row of terminals from the connection bar).

Osada discloses a paddle ring 25 with spaced projections 25_1 that extend outwardly from the paddle ring 25. Metal interconnects 28 extend from inside the paddle ring 25, over the ring at places between the spaced projections, and beyond the ring are equated with a second row of terminals. As previously discussed, the projections 25_1 are equated with the first row of terminals of the present invention, and the metal interconnects with the second row of terminals of the present invention.

First, as discussed during the interview, Applicants disagree that the spaced projections 25_1 are terminals or leads. Rather, as explained in the Osada Abstract, the projections fit between leads and are provided for the purpose of preventing resin bleeding during molding operation. To equate the projections to the first row of terminals of the present invention is improper because it ignores the teaching of Osada and also ignores the projections 36, 38 (see FIG. 3 and claims 2-3) of the present invention.

However, as Applicants understand that the Examiner is adamant in his position that the projections 25_1 are terminals,

Applicants have amended claims 1 and 12 to recite that the terminals of the first row of terminals "sized and shaped such that wires may be wirebonded between the terminals and bonding pads of an integrated circuit die disposed within the cavity and the terminals may be cut and thus separated from the paddle ring without destroying the wirebond."

As is clearly shown in FIG. 10, wires may be wirebonded to the terminals of the first row of terminals, and as shown in FIG. 4, the terminals may be separated from the paddle ring. In contrast, the small, spaced projections 25_1 appear to be way too small to accommodate a wire and be separated from the paddle ring.

Second, to say that the leads 28 of Osada form a second row of terminals is incorrect too. The leads 28 form the only real "row" of terminals around the paddle ring 25 of Osada. Further, the leads 28 extend outwardly from the paddle ring, whereas the outer row of terminals of the present invention extends toward the paddle ring from a connection bar 78 (FIG. 10). Thus, it is Applicants' position that Osada does not disclose two rows of terminals.

Thirdly, as discussed above and as shown in FIG. 1 of Osada, the leads 28 extend over the paddle ring 25 at locations in between the spaced projections 25_1. Thus, the spaced projections 25_1 and the leads 28 are offset from each other. In contrast, the first and second rows of terminals of the present invention are aligned with each other. Claims 1 and 12 have been amended to recite, "a second row of terminals aligned with and surrounding the first row of terminals" to clarify this further difference between Osada and the present invention.

Finally, Claims 1 and 12 have been amended to more clearly define the connection bar to which each of the terminals of the second row of terminals is connected. The connection bar

surrounds the first and second rows of terminals. The terminals of the second row of terminals extend inwardly from the connection bar toward the terminals of the first row of terminals. The terminals of the first and second rows of terminals are aligned with each other and spaced from each other. The connection bar is clearly shown in FIGS. 9 and 10 (connection bars 78-79) and described at para. [0035].

Osada does not disclose a connection bar from which each of the terminals of a second row of terminals extends such that the terminals of the second row surround and are spaced from the terminals of the first row of terminals.

In view of the above, that the spaced projections 25_1 are not really terminals; are not sized and shaped either to receive a wirebond or be separated from the paddle ring; and that the alleged first and second rows of terminals of Osada are not aligned with each other, Osada does not anticipate independent claims 1 and 12.

Osada does not anticipate the dependent claims 2-4 and 13-17 for the same reasons. Accordingly, Applicants respectfully request that the rejection of claims 1-5, 8, 9 and 11-17 as anticipated by Osada be withdrawn.

Claims 10 and 11 have been rejected under 35 U.S.C. §103 as being unpatentable over Osada in combination with U.S. Patent No. 6,005,286 (Kinsman). Applicants respectfully traverse the rejection.

Claims 10 and 11 depend from claim 1 and are patentable over the cited references for the same reasons that claim 1 is patentable over the cited references. Accordingly, Applicants respectfully request that the rejection of claims 10 and 11 be withdrawn.

In view of the foregoing remarks, it is respectfully submitted that the present application, including claims 1-5 and

8-17, is in condition for allowance and such action is respectfully solicited.

Respectfully submitted,

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